

Floristic Inventory and Habitat Assessment
for the
Clear Creek Corridor
Coralville, Iowa

Prepared for:

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Introduction

Project Location

Clear Creek is a major watercourse that flows west-to-east across west-central Johnson County, Iowa. The creek ends in the City of Coralville near the Iowa City border, where it flows into the Iowa River. In general, the project site includes an approximately 3.5 mile-long section of Clear Creek, from Deer Creek Road on the west, to the Chicago, Rock Island, and Pacific Railroad near 4th Avenue (see Exhibit A). The northern and southern boundaries of the project area vary depending upon land ownership. In general, however, the "corridor" includes the adjacent lands within a 1/4 mile-distance of the creek channel.

Statement of Purpose

This region of the Coralville/Iowa City area is undergoing rapid growth from residential and commercial development. The Clear Creek Corridor is one of the largest and richest remnant areas in all of Johnson County, providing habitat for dozens of uncommon or rare species in this region of the state. The purpose of this study is to collect baseline data on the plant communities and habitats across the project area, primarily from direct observations during a series of site visits. The information presented herein can be referenced by the City and used to assist in land use planning, so that the ongoing development can be planned to occur without compromising Iowa's native biodiversity. Indeed, it is expected that with careful planning and management the remnant heritage of Iowa can thrive as an incorporated amenity of the City of Coralville.

Methods

Background Document Review

Several documents were reviewed for initial site orientation and to familiarize ourselves with the general character of the project area. These documents include both the US Geological Survey (USGS) topographic map and the National Wetlands Inventory (NWI) map of the region, the US Department of Agriculture (USDA) soil survey of Johnson County, and aerial photographs taken in 1988 and 1997.

In addition, three other sources were referenced regarding the vegetation of Johnson County. These include *The Flora of Johnson County* (Thorne 1955), *Endangered and Threatened Plant and Animal Species* (Iowa Administrative Code 1994), and *The Vascular Plants of Iowa* (Eilers and Roosa 1994).

Field Observations

Three visits to the site were conducted in order to collect information on the existing conditions across the project area. The method used to traverse the project area was simply to meander across the landscape so as to record the species encountered in all habitats and community types. Information gathered in the field included vegetation inventories, plant community descriptions and mapping, and notes concerning habitat quality and potential land use.

Floristic Quality Assessment

The overall floristic quality of the project area was determined through an analysis of the conservatism of the species appearing in the inventory (Wilhelm and Masters 1996). Conservatism is defined by the confidence one has about how restricted a species is to high-quality, remnant habitats (i.e., those natural areas with intact presettlement structure, composition, and processes). Native plants of a defined geographic region exhibit an observable range of conservatism and, therefore, each may be assigned a "coefficient of conservatism" (c value) from 0 to 10, "weedy" to "conservative."

The overall floristic quality of an area is determined through an analysis of the conservatism of the species appearing in an inventory, with the mean c or average coefficient of conservatism determined arithmetically from the species inventory. The floristic quality index (*FQI*) is a statistic derived by multiplying the mean c by the square root of the number of native species recorded. If a site has a large proportion of conservative plants, the mean c and *FQI* values will be higher. On the contrary, if a site has a large proportion of adventive and non-conservative native species, these values will be lower and imply that the area is degraded.

Results and Discussion

Part A includes a summary of the background mapping information. The floristic inventory of the corridor is presented in Part B, and descriptions of the various plant communities and habitats are presented in Part C.

Part A Background Document Review

Exhibit B is a copy of the USGS topographic map of the site. The bluffs and ravines south of the creek are readily apparent. Also evident are the existing natural meanders of the Clear Creek waterway within the project area, with the exception of the western end along Deer Creek Road where the creek has been channelized.

Exhibit C is a copy of the NWI map that identifies several wetland habitats within the project area. The classification of these wetlands is presented in the table below along with their mapping symbol and description.

Symbol	Definition
R2UBG	Riverine, lower perennial, unconsolidated bottom, intermittently exposed
R2UBGx	Riverine, lower perennial, unconsolidated bottom, intermittently exposed, excavated
R2USA	Riverine, lower perennial, unconsolidated shore, temporarily flooded
PABG	Palustrine, aquatic bed, intermittently exposed
PEMA	Palustrine, emergent, temporarily flooded
PEMC	Palustrine, emergent, seasonally flooded
PEMCd	Palustrine, emergent, seasonally flooded, partially drained/ditched
PEMF	Palustrine, emergent, semipermanently flooded
PFO1A	Palustrine, forested, broad-leaved deciduous, temporarily flooded

Symbol	Definition
PFO1C	Palustrine, forested, broad-leaved deciduous, seasonally flooded

The riverine wetlands include Clear Creek and its significant tributaries. The palustrine wetlands include vegetated wetland habitats such as remnant depressions and artificial ponds. In general, NWI maps such as this are based primarily upon aerial photographic interpretation and can be used as a guide to locate likely regulatory wetlands. The specific location and characterization of any of these areas must be determined by field observation, and the NWI wetland borders may or may not circumscribe jurisdictional boundaries.

Exhibit D is a copy of the Johnson County soil survey map of the project area (USDA 1983). The majority of the soils across the project area are of either the Fayette-Downs association, located along the bluffs and ravines south of the creek, or of the Nodaway-Lawson-Waukee association, located in alluvial soils along Clear Creek. Other soil series found within the project area and comprising primarily agricultural lands are presented in the table below along with their mapping symbol.

Symbol	Soil Series
133	Colo
163	Fayette
220	Nodaway
293C3	Chelsea-Lamont-Fayette
453	Tuskeego
484	Lawson
520	Coppock
688	Koszta
729B	Nodaway-Arenzville
778	Sattre
793	Bertrand
826	Rowley
1315	Perks-Spillville

Part B Floristic Inventory

Information on the vegetation and plant communities was gathered during three visits to the site, conducted on May 6-7, July 24-25, and on the 17th of December, 1997. A list of the plants recorded from across the project area is included in Appendix I. Also included with the species list is a summary of the floristic quality data. A total of 426 species were recorded, 338 of which are native (79.3%).

The floristic quality assessment data is based upon assigned values for the Chicago Region flora (Swink and Wilhelm 1994). Nevertheless, the use of this method of land assessment is generally applicable to the vegetation in east-central Iowa (i.e., the assigned c values for each native species is likely to be

the same or similar in these two regions). This being the case, the results indicate that a significant portion of the lands within the project area represent high-quality, remnant plant communities. As is discussed below, some areas (e.g., old fields) within the Corridor are highly-modified from their presettlement conditions and are dominated by non-native plants. Nevertheless, it is likely that less than 0.5% of the landscape across Johnson County, Iowa is as rich and diverse in native vegetation and remnant plant communities as the project area, as indicated by native mean *c* and *FQI* values of 4.4, and 81, respectively. Although based upon visits to the site during just one growing season, it is likely that this inventory represents no less than three-quarters of the vegetation within the project area, and that contemporary impressions of floristic quality will not change significantly with subsequent botanical inventories.

According to the Iowa Administrative Code (1994), two of the plants listed in Appendix I are classified as "special concern species." These include smooth clustered sedge (*Carex aggregata*), and narrow-leaved oval sedge (*Carex tenera*). In addition, several species are noted as being "infrequent" or "rare" to either Johnson County (Thorne 1955) and/or east-central Iowa (Ejlers and Roosa 1994). These "special status species" are presented in Appendix II, and represent conservative native plants typically found in relatively intact, remnant plant communities.

Part C Plant Communities and Habitats

Several plant communities and habitat types exist within the project area. These include both natural, remnant areas as well as modified, cultural landscapes. Each of these areas are described below, and their locations depicted on Exhibits E through H. Several photographs taken during the site visits are included at the back of the report.

NATURAL PLANT COMMUNITIES/HABITATS:

Wooded Bluffs and Ravines

These areas comprise, perhaps, the most significant portions of the project site in terms of remnant, natural character. In general, the vegetation can be characterized as oak-dominated woodland. Other plants relatively common across these bluffs and ravines include the following:

Acer saccharum, *Allium canadense*, *Arisaema triphyllum*, *Asarum canadense*, *Aster sagittifolius*, *Carex cephalophora*, *C. grisea*, *C. hirtifolia*, *C. pensylvanica*, *Carya cordiformis*, *Circaea lutetiana* var. *canadensis*, *Cystopteris fragilis* var. *protrusa*, *Eupatorium rugosum*, *Festuca obtusa*, *Galium concinnum*, *Geum canadense*, *Osmorhiza longistylis*, *Ostrya virginiana*, *Parthenocissus quinquefolia*, *Podophyllum peltatum*, *Polygonatum canaliculatum*, *Polygonum virginianum*, *Prunus americana*, *Rhus radicans*, *Smilacina racemosa*, *Sphenopholis intermedia*, *Tilia americana*, and *Viola sororia*.

Across some of the less-disturbed areas of these woods the common Spring flora includes such plants as rue anemone (*Anemonella thalictroides*), spring beauty, (*Claytonia virginica*), toothwort (*Dentaria laciniata*), Dutchman's breeches (*Dicentra cucullaria*), wild geranium (*Geranium maculatum*), sharp-lobed hepatica (*Hepatica acutiloba*), false rue anemone (*Isopyrum biternatum*), woodland phlox (*Phlox divaricata*), Jacob's ladder (*Polemonium reptans*), bloodroot (*Sanguinaria canadensis*), broad-leaved goldenrod (*Solidago flexicaulis*), and bellwort (*Uvularia grandiflora*).

Some plant species recorded from these woods that are considered to be infrequent to rare in this portion of Iowa include maidenhair fern (*Adiantum pedatum*), spikenard (*Aralia racemosa*), wood sandwort (*Arenaria lateriflora*), poke milkweed (*Asclepias exaltata*), blue cohosh (*Caulophyllum thalictroides*), shooting star (*Dodecatheon meadia*), spinulose shield fern (*Dryopteris spinulosa*), and snow trillium (*Trillium nivale*).

Unfortunately, portions of these bluffs and ravines are severely degraded and do not support a rich native flora as described above. Fire suppression, grazing, and the cultivation of adjacent lands have caused soil erosion, all of which have destabilized these slopes.

Bottomland Woods and Terraces

This plant community includes all of the woodland areas along Clear Creek that are prone to regular or occasional flooding. The common trees across these floodplain woods include box elder (*Acer negundo*), silver maple (*Acer saccharinum*), river birch (*Betula nigra*), hackberry (*Celtis occidentalis*), green ash (*Fraxinus pennsylvanica*), honey locust (*Gleditsia triacanthos*), black walnut (*Juglans nigra*), cottonwood (*Populus deltoides*), bur oak (*Quercus macrocarpa*), and American elm (*Ulmus americana*). Some of these trees represent fine examples of old-growth timber and include a number of specimen trees. The common understory vegetation in these woods includes the following:

Actinomeris alternifolia, *Amphicarpaea bracteata* var. *comosa*, *Apios americana*, *Arisaema triphyllum*, *Asarum canadense*, *Aster ontarionis*, *Campanula americana*, *Carex radiata*, *Crataegus mollis*, *Cryptotaenia canadensis*, *Elymus villosus*, *Galium aparine*, *Hackelia virginiana*, *Hydrophyllum virginianum*, *Impatiens capensis*, *Laportea canadensis*, *Parthenocissus quinquefolia*, *Pilea pumila*, *Ranunculus septentrionalis*, *Rhus radicans*, *Ribes missouriense*, *Rudbeckia laciniata*, *Sanicula gregaria*, *Smilax tamnoides* var. *hispida*, *Urtica procera*, *Viola sororia*, and *Vitis riparia*.

As with the wooded bluffs, these bottomland woods and terraces suffer from fire suppression and grazing. In some areas, these "woodlands" are best characterized as thickets of silver maple, box elder, river birch, and sandbar willow (*Salix interior*). In addition, the ground cover is much disturbed in areas from excessive and erratic episodes of sediment-laden stormwater from upstream development and agriculture. Lastly, beaver activity, in particular east of Camp Cardinal Road, has caused severe damage to many of the trees.

Ox-bows and Vegetated Wetlands

These areas are located within the bottomland woods or adjacent agricultural lands along Clear Creek and include ox-bows or old meanders of the creek, woodland depressions, a marsh, and seeps along the bases of the bluffs. The ox-bow wetlands are best defined on the Greer Property, north of the creek, west of Camp Cardinal Road. These areas support sedge meadows dominated by blue joint grass (*Calamagrostis canadensis*) and various sedges (especially *Carex emoryi*), as well as forested wetland habitat dominated by river birch, rough-leaved dogwood (*Cornus drummondii*), and various willows (*Salix* spp.). A disturbed marsh located south of the JLS Property, east of Camp Cardinal Road, north of the creek is characterized by reed canary grass (*Phalaris arundinacea*) and cattails (*Typha* spp.).

In a few areas along the base of the bluffs are groundwater-discharge seeps and wetland depressions. In addition to many woodland species described above, these areas support a diverse native flora that

includes false nettle (*Boehmeria cylindrica*), bulbous cress (*Cardamine bulbosa*), common hop sedge (*Carex lupulina*), buttonbush (*Cephalanthus occidentalis*), black ash (*Fraxinus nigra*), bugle weed (*Lycopus virginicus*), sensitive fern (*Onoclea sensibilis*), arrow-leaved tear thumb (*Polygonum sagittatum*), cup plant (*Silphium perfoliatum*), and rough hedge nettle (*Stachys tenuifolia* var. *hispida*).

Creek

The banks along Clear Creek are steep and severely eroded (see photographs). The soils vary from a sandy alluvium to silty clays that are prone to chronic flooding and disturbance, and under such conditions there is little if any vegetation of note within the stream. The same conditions apply to a few small tributaries that flow into the creek.

CULTURAL LANDSCAPES:

Old-field Habitats and Pasture

Agricultural fields comprise most of the non-forested lands across the corridor. In general, these areas are dominated by Eurasian vegetation and have little in common with any presettlement plant communities. Most of these fields within the project area lie within the floodplain of Clear Creek and are regulatory wetlands. Woody plant succession has and continues to take place in some of these fields, resulting in weedy, depauperate "thickets." A few of these old fields represent artificially-filled land where soil and various debris have been deposited.

Cultivated Land

A few areas of cultivated land exist within the project area as depicted on the exhibits. These are of note primarily because their continued use for row-crop agriculture will further diminish the water quality and habitat stability of adjacent habitats within the corridor and beyond.

Artificial Waterways

Several artificial tributaries flow into the creek within the project area. In general, these waterways suffer from streambank erosion and erratic stormwater events that result from upstream land use practices. A sterile, artificial pond is located along the east side of Camp Cardinal Road, south of the creek.

Summary

As supported by our field observations and data analysis, the Clear Creek Corridor includes within it high-quality, remnant landscapes of significant importance to the region's native biodiversity. The specific areas within the corridor that are most important in terms of protection and ecological restoration are the bluffs and ravines south of the creek, as well as the bottomland woods and terraces, and various wetlands within the floodplain.

The Clear Creek Corridor contains within it a variety of natural amenities, which include large specimen trees, uncommon plants, a diversity of species, and natural belvederes, and it is the default refugium for much of the remnant biodiversity that is the native legacy of Johnson County. Indeed, its species richness places it among the more notable areas in Iowa. The Corridor is also the site for

ongoing development and probably for future development. Short-term and long-term economic goals and sustainable use of the Corridor are questions that deserve integrated attention, so that economic amenities can be planned to occur in concert with the enfranchisement of irreplaceable resources such as remnant biodiversity, and the overall long-term livability of Coralville.

We recommend that a team of planners and practitioners be deployed to think through the specifics of currently planned development. We should make certain that current plans do not purloin from the next generation of Iowan's natural assets that are currently present, but not fully recognized for their full potential and value. There is every good reason to believe that these amenities can be nourished, stewarded, and integrated into an overall Corridor master plan.

Literature Cited

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Appendices

Appendix I

Floristic Quality Assessment - Inventory Data Summary

Clear Creek Corridor - Coralville, Iowa

The following is a summary of the inventory data generated using Wilhelm and Masters's *Floristic Quality Assessment in the Chicago Region and Application Computer Programs*, 1996. Plant nomenclature follows Swink and Wilhelm's *Plants of the Chicago Region*, 1994.

Section 1 includes three tables that summarize the inventory assessment data. The table to the left is an analysis of the floristic quality of the project area. In addition to listing the number of native species and total number of species, the mean coefficient of conservatism (MEAN C), floristic quality index (FQI), and mean wetness (MEAN W) values are presented. These are calculated once for native species only, and a second time including adventive species (W/Adventives). The two other tables summarize the number and percent of species in each physiognomic group (A = annual, B = biennial, P = perennial, W = woody, H = herbaceous).

Section 2 includes the species inventory arranged alphabetically, with each species preceded by its database acronym and coefficient of conservatism (C = 0 to 10, weedy to conservative), and followed by its wetness coefficient (W = -5 to +5, wet to dry), corresponding national wetland indicator status (OBL = obligate wetland species, FAC = facultative species, UPL = upland species), physiognomic group, and common name. Adventive species are written in ALL CAPS and have an asterisk (*) for their C value.

The mean C is the average coefficient of conservatism for the site. The FQI is derived by multiplying the mean C by the square root of the number of species present. In general, if the mean C is 3.5 or higher, or the FQI registers in the middle thirties or higher, it is relatively certain that there is sufficient native character in the site to be important in terms of a regional natural area perspective. The vast majority of land in the region registers FQI values less than 20 and essentially has no significance from a natural area perspective. Areas with FQI values in the fifties or higher are extremely rare and of paramount importance; they represent less than 0.5% of the land area in the Chicago region.

SITE: Clear Creek Corridor
 LOCALE: Coralville, Johnson County, Iowa
 DATE: 1997
 BY: Conservation Design Forum (Johnson & Wilhelm)
 FILE: clcrck

Section 1. Summary Tables

FLORISTIC QUALITY DATA	NATIVE	79.3%	ADVENTIVE	20.7%
338 NATIVE SPECIES	36 Tree	8.5%	7 Tree	1.6%
426 Total Species	20 Shrub	4.7%	7 Shrub	1.6%
4.41 NATIVE MEAN C	10 W-Vine	2.3%	1 W-Vine	0.2%
3.50 W/Adventives	4 H-Vine	0.9%	1 H-Vine	0.2%
81.05 NATIVE FQI	154 P-Forb	36.2%	22 P-Forb	5.2%
72.19 W/Adventives	7 B-Forb	1.6%	12 B-Forb	2.8%
0.0 NATIVE MEAN W	36 A-Forb	8.5%	23 A-Forb	5.4%
0.5 W/Adventives	18 P-Grass	4.2%	10 P-Grass	2.3%
AVG: FAC. WETLAND	5 A-Grass	1.2%	5 A-Grass	1.2%
	38 P-Sedge	8.9%	0 P-Sedge	0.0%
	1 A-Sedge	0.2%	0 A-Sedge	0.0%
	9 Cryptogam	2.1%		

Section 2. Species Inventory

ACRONYM	C SCIENTIFIC NAME	W WETNESS	PHYSIOG.	COMMON NAME
ABUTHE	* ABUTILON THEOPHRASTII	4 FACU-	Ad A-FORB	VELVETLEAF
ACARHO	0 Acalypha rhomboidea	3 FACU	Nt A-FORB	THREE-SEEDED MERCURY
ACENEG	0 Acer negundo	-2 FACW-	Nt TREE	BOX ELDER
ACESAI	0 Acer saccharinum	-3 FACW	Nt TREE	SILVER MAPLE
ACESAU	3 Acer saccharum	3 FACU	Nt TREE	SUGAR MAPLE
ACHMIL	* ACHILLEA MILLEFOLIUM	3 FACU	Ad P-FORB	YARROW
ACOCAL	7 Acorus calamus	-5 OBL	Nt P-FORB	SWEET FLAG
ACTFAC	7 Actaea pachypoda	5 UPL	Nt P-FORB	WHITE BANEERRY
ACTALT	5 Actinomeris alternifolia	-3 FACW	Nt P-FORB	WINGSTEM
ADIPED	10 Adiantum pedatum	1 FAC-	CRYPTOGAM	MAIDENHAIR FERN
AGATEN	7 Agalinis tenuifolia	-3 FACW	Nt A-FORB	SLENDER FALSE FOXGLOVE
AGASCR	5 Agastache scrophulariaefolia	5 UPL	Nt P-FORB	PURPLE GIANT HYSSOP
AGRGRY	2 Agrimonia gryposepala	2 FACU+	Nt P-FORB	TALL AGRIMONY
AGRPAR	7 Agrimonia parviflora	-1 FAC+	Nt P-FORB	SWAMP AGRIMONY
AGRSMI	* AGROPYRON SMITHII	4 FACU-	Ad P-GRASS	WESTERN WHEAT GRASS
AGRALA	* AGROSTIS ALBA	-3 FACW	Ad P-GRASS	REDTOP
AGRHYE	1 Agrostis hyemalis	1 FAC-	Nt P-GRASS	TICKLE GRASS
AGRPER	3 Agrostis perennans	1 FAC-	Nt P-GRASS	THIN GRASS
ALISUB	4 Allisma subcordatum	-5 OBL	Nt P-FORB	COMMON WATER PLANTAIN
ALLPET	* ALLIARIA PETIOLATA	0 FAC	Ad B-FORB	GARLIC MUSTARD
ALLCAN	2 Allium canadense	3 FACU	Nt P-FORB	WILD ONION
ALOCAR	0 Alopecurus carolinianus	-3 FACW	Nt A-GRASS	ANNUAL FOXTAIL
AMAGRA	* AMARANTHUS GRAECIZANS	5 UPL	Ad A-FORB	CREEPING AMARANTH
AMBARE	0 Ambrosia artemisiifolia elatior	3 FACU	Nt A-FORB	COMMON RAGWEED
AMBTRI	0 Ambrosia trifida	-1 FAC+	Nt A-FORB	GIANT RAGWEED
AMOFRU	6 Amorpha fruticosa	-4 FACW+	Nt SHRUB	INDIGO BUSH
AMPBRB	4 Amphicarpaea bracteata	0 FAC	Nt H-VINE	UPLAND HOG PEANUT
AMPBRC	5 Amphicarpaea bracteata comosa	-3 [FACW]	Nt H-VINE	LOWLAND HOG PEANUT
ANEQUI	7 Anemone quinquefolia	5 [UPL]	Nt P-FORB	WOOD ANEMONE
ANEVIR	5 Anemone virginiana	5 UPL	Nt P-FORB	TALL ANEMONE
ANETHA	7 Anemonella thalictroides	5 UPL	Nt P-FORB	RUE ANEMONE
ANTCOT	* ANTHEMIS COTULA	3 FACU	Ad A-FORB	DOG FENNEL
APIAME	7 Aplos americana	-3 FACW	Nt P-FORB	GROUND NUT
APOAND	5 Apocynum androsaemifolium	5 UPL	Nt P-FORB	SPREADING DOGBANE
AQUCAN	6 Aquilegia canadensis	1 FAC-	Nt P-FORB	WILD COLUMBINE
ARANUD	8 Aralia nudicaulis	3 FACU	Nt SHRUB	WILD SARSAPARILLA
ARARAC	10 Aralia racemosa	5 UPL	Nt P-FORB	SPIKENARD
ARCMIN	* ARCTIUM MINUS	5 UPL	Ad B-FORB	COMMON BURDOCK
ARELAT	8 Arenaria lateriflora	5 UPL	Nt P-FORB	WOOD SANDWORT
ARIDRA	7 Arisaema dracontium	-3 FACW	Nt P-FORB	GREEN DRAGON
ARITRI	4 Arisaema triphyllum	-2 FACW-	Nt P-FORB	JACK-IN-THE-PULPIT
ASACAN	7 Asarum canadense	5 UPL	Nt P-FORB	WILD GINGER
ASCAMP	7 Asclepias amplexicaulis	5 UPL	Nt P-FORB	SAND MILKWEED
ASCEXA	9 Asclepias exaltata	5 UPL	Nt P-FORB	POKE MILKWEED
ASCINC	4 Asclepias incarnata	-5 OBL	Nt P-FORB	SWAMP MILKWEED
ASCSYR	0 Asclepias syriaca	5 UPL	Nt P-FORB	COMMON MILKWEED
ASTCOR	7 Aster cordifolius	5 UPL	Nt P-FORB	HEART-LEAVED ASTER
ASTLAT	4 Aster lateriflorus	-2 FACW-	Nt P-FORB	SIDE-FLOWERING ASTER

Clear Creek Corridor - Appendix I Species List (cont.):

ASTONT	4	Aster ontarionis	0	FAC	Nt	P-FORB	ONTARIO ASTER
ASTPIL	0	Aster pilosus	2	FACU+	Nt	P-FORB	HAIRY ASTER
ASTSAS	5	Aster sagittifolius	5	UPL	Nt	P-FORB	ARROW-LEAVED ASTER
ASTSAD	2	Aster sagittifolius drummondii	3	[FACU]	Nt	P-FORB	DRUMMOND'S ASTER
ASTSIS	3	Aster simplex	-5	OBL	Nt	P-FORB	PANICLED ASTER
ATHFIM	8	Athyrium filix-femina michauxii	0	FAC			CRYPTOGAM LADY FERN
ATRPAT	*	ATRIplex PATULA	-2	FACW-	Ad	A-FORB	COMMON ORACH
BARVUL	*	BARBAREA VULGARIS	0	FAC	Ad	B-FORB	YELLOW ROCKET
BERTHU	*	BERBERIS THUNBERGII	4	FACU-	Ad	SHRUB	JAPANESE BARBERRY
BETNIG	7	Betula nigra	-3	FACW	Nt	TREE	RIVER BIRCH
BIDCER	5	Bidens cernua	-5	OBL	Nt	A-FORB	NODDING BUR MARIGOLD
BIDCOM	5	Bidens comosa	-5	[OBL]	Nt	A-FORB	SWAMP TICKSEED
BIDFRO	1	Bidens frondosa	-3	FACW	Nt	A-FORB	COMMON BEGGAR'S TICKS
BOECYC	2	Boehmeria cylindrica	-5	OBL	Nt	P-FORB	FALSE NETTLE
BOLLAR	9	Boltonia latisquama recognita	-5	[OBL]	Nt	P-FORB	FALSE ASTER
BOTVIR	6	Botrychium virginianum	3	FACU			CRYPTOGAM RATTLESNAKE FERN
BRABAB	0	Brassica kaber	5	UPL	Nt	A-FORB	CHARLOCK
BRANIG	*	BRASSICA NIGRA	5	UPL	Ad	A-FORB	BLACK MUSTARD
BROINE	*	BROMUS INERMIS	5	UPL	Ad	P-GRASS	HUNGARIAN BROME
BROJAP	*	BROMUS JAPONICUS	3	FACU	Ad	A-GRASS	JAPANESE CHESSE
BROPUB	5	Bromus pubescens	2	FACU+	Nt	P-GRASS	WOODLAND BROME
BROTEC	*	BROMUS TECTORUM	5	UPL	Ad	A-GRASS	DOWNY BROME
CALCAN	3	Calamagrostis canadensis	-5	OBL	Nt	P-GRASS	BLUE JOINT GRASS
CAMAME	3	Campanula americana	0	FAC	Nt	A-FORB	TALL BELLEFLOWER
CAPBUR	*	CAPSELLA BURSA-PASTORIS	1	FAC-	Ad	A-FORB	SHEPHERD'S PURSE
CARBUL	6	Cardamine bulbosa	-5	OBL	Nt	P-FORB	BULBOUS CRESS
CARPEN	4	Cardamine pensylvanica	-4	FACW+	Nt	B-FORB	PENNSYLVANIA BITTER CRESS
CXAGGR	5	Carex aggregata	5	UPL	Nt	P-SEDGE	SMOOTH CLUSTERED SEDGE
CXANNX	7	Carex annectens xanthocarpa	0	[FAC]	Nt	P-SEDGE	SMALL YELLOW FOX SEDGE
CXBLAN	1	Carex blanda	0	FAC	Nt	P-SEDGE	COMMON WOOD SEDGE
CXBREV	4	Carex brevior	3	[FACU]	Nt	P-SEDGE	PLAINS OVAL SEDGE
CXCEPP	3	Carex cephalophora	3	FACU	Nt	P-SEDGE	SHORT-HEADED BRACKETED SEDGE
CXCRIS	4	Carex cristatella	-4	FACW+	Nt	P-SEDGE	CRESTED OVAL SEDGE
CXDAVI	7	Carex davisii	-1	FAC+	Nt	P-SEDGE	AWNED GRACEFUL SEDGE
CXEMOR	6	Carex emoryi	-5	OBL	Nt	P-SEDGE	RIVERBANK SEDGE
CXFRAN	8	Carex frankii	-5	OBL	Nt	P-SEDGE	BRISTLY CATTAIL SEDGE
CXGRIS	2	Carex grisea	1	[FAC-]	Nt	P-SEDGE	WOOD GRAY SEDGE
CXHIRT	5	Carex hirtifolia	5	UPL	Nt	P-SEDGE	HAIRY WOOD SEDGE
CXJAME	5	Carex jamesii	5	UPL	Nt	P-SEDGE	GRASS SEDGE
CXLACU	6	Carex lacustris	-5	OBL	Nt	P-SEDGE	COMMON LAKE SEDGE
CXLUPN	7	Carex lupulina	-5	OBL	Nt	P-SEDGE	COMMON HOP SEDGE
CXMOLE	2	Carex molesta	-1	FAC+	Nt	P-SEDGE	FIELD OVAL SEDGE
CXNORM	5	Carex normalis	0	[FAC]	Nt	P-SEDGE	SPREADING OVAL SEDGE
CXPENS	5	Carex pensylvanica	5	UPL	Nt	P-SEDGE	COMMON OAK SEDGE
CXRADI	6	Carex radiata	1	[FAC-]	Nt	P-SEDGE	STRAIGHT-STYLED WOOD SEDGE
CXROSE	4	Carex rosea	5	UPL	Nt	P-SEDGE	CURLY-STYLED WOOD SEDGE
CXSCOP	7	Carex scoparia	-3	FACW	Nt	P-SEDGE	LANCE-FRUITED OVAL SEDGE
CXSHOR	10	Carex shortiana	0	[FAC]	Nt	P-SEDGE	SHORT'S SEDGE
CXSPAR	3	Carex sparganioides	0	FAC	Nt	P-SEDGE	LOOSE-HEADED BRACKETED SEDGE
CXSPRE	9	Carex sprengei	3	[FACU]	Nt	P-SEDGE	LONG-BEAKED SEDGE
CXSTIP	3	Carex stipata	-5	OBL	Nt	P-SEDGE	COMMON FOX SEDGE
CXSTRI	5	Carex stricta	-5	OBL	Nt	P-SEDGE	COMMON TUSsock SEDGE
CXTENE	8	Carex tenera	1	[FAC-]	Nt	P-SEDGE	NARROW-LEAVED OVAL SEDGE
CXTRIB	3	Carex tribuloides	-4	FACW+	Nt	P-SEDGE	AWL-FRUITED OVAL SEDGE
CXTRIC	7	Carex trichocarpa	-5	OBL	Nt	P-SEDGE	HAIRY-FRUITED LAKE SEDGE
CXVESM	10	Carex vesicaria monile	-5	OBL	Nt	P-SEDGE	TUFTED LAKE SEDGE
CXVULP	2	Carex vulpinoidea	-5	OBL	Nt	P-SEDGE	BROWN FOX SEDGE
CARCOR	7	Carya cordiformis	3	[FACU]	Nt	TREE	BITTERNUT HICKORY
CAROV	5	Carya ovata	3	FACU	Nt	TREE	SHAGBARK HICKORY
CASFAS	5	Cassia fasciculata	4	FACU-	Nt	A-FORB	PARTRIDGE PEA
CATSPE	*	CATALPA SPECIOSA	3	FACU	Ad	TREE	HARDY CATALPA
CAUTHA	8	Caulophyllum thalictroides	5	UPL	Nt	P-FORB	BLUE COHOSH
CELSCA	4	Celastrus scandens	5	[UPL]	Nt	W-VINE	CLIMBING BITTERSWEET
CELOCC	3	Celtis occidentalis	1	FAC-	Nt	TREE	HACKBERRY
CENLON	0	Cenchrus longispinus	5	UPL	Nt	A-GRASS	SANDBUR
CEPOCC	5	Cephalanthus occidentalis	-5	OBL	Nt	SHRUB	BUTTONBUSH
CERVUL	*	CERASTIUM VULGATUM	3	FACU	Ad	P-FORB	MOUSE-EAR CHICKWEED
CHAMIN	*	CHAENORRHINUM MINUS	5	UPL	Ad	A-FORB	SMALL SNAPDRAGON
CHAPRO	5	Chaerophyllum procumbens	-1	FAC+	Nt	A-FORB	STREAM BANK CHERVIL
CHEALB	*	CHENOPODIUM ALBUM	1	FAC-	Ad	A-FORB	LAMB'S QUARTERS
CINARU	5	Cinna arundinacea	-3	FACW	Nt	P-GRASS	COMMON WOOD REED
CIRLUC	1	Circaea lutetiana canadensis	3	FACU	Nt	P-FORB	ENCHANTER'S NIGHTSHADE
CIRARV	*	CIRSIUM ARVENSE	5	UPL	Ad	P-FORB	FIELD THISTLE
CIRDIS	2	Cirsium discolor	5	UPL	Nt	B-FORB	PASTURE THISTLE
CIRVUL	*	CIRSIUM VULGARE	4	FACU-	Ad	B-FORB	BULL THISTLE
CLAVIR	2	Claytonia virginica	3	FACU	Nt	P-FORB	SPRING BEAUTY
CLEPIT	10	Clematis pitcheri	3	FACU	Nt	W-VINE	LEATHER FLOWER
CLEVIR	4	Clematis virginiana	0	FAC	Nt	W-VINE	VIRGIN'S BOWER

Clear Creek Corridor - Appendix I Species List (cont.):

COMCOM	* COMMELINA COMMUNIS	0 FAC	Ad A-FORB	COMMON DAY FLOWER
CONMAC	* CONIUM MACULATUM	-3 FACW	Ad B-FORB	POISON HEMLOCK
CONMAJ	* CONVALLARIA MAJALIS	5 UPL	Ad P-FORB	LILY-OF-THE-VALLEY
CONSEP	1 Convolvulus sepium	0 FAC	Nt P-FORB	HEDGE BINDWEED
CORALT	9 Cornus alternifolia	1 [FAC-]	Nt TREE	PAGODA DOGWOOD
CORDRU	2 Cornus drummondii	0 FAC	Nt SHRUB	ROUGH-LEAVED DOGWOOD
COROBL	6 Cornus obliqua	-4 FACW+	Nt SHRUB	BLUE-FRUITED DOGWOOD
CORRAC	1 Cornus racemosa	-2 FACW-	Nt SHRUB	GRAY DOGWOOD
CORVAR	* CORONILLA VARIA	5 UPL	Ad P-FORB	CROWN VETCH
CORAME	5 Corylus americana	4 FACU-	Nt SHRUB	AMERICAN HAZELNUT
CRACHR	6 Crataegus chrysocarpa	5 UPL	Nt TREE	FIREBERRY HAWTHORN
CRACRU	2 Crataegus crus-galli	0 FAC	Nt TREE	COCKSPUR HAWTHORN
CRAMOL	2 Crataegus mollis	4 FACU-	Nt TREE	DOWNY HAWTHORN
CRYCAN	2 Cryptotaenia canadensis	0 FAC	Nt P-FORB	HONEWORT
CYPESC	0 Cyperus esculentus	-1 [FAC+]	Nt P-SEDGE	FIELD NUT SEDGE
CYSFRP	6 Cystopteris fragilis protrusa	3 FACU	CRYPTOGAM	FRAGILE FERN
DACGLO	* DACTYLIS GLOMERATA	3 FACU	Ad P-GRASS	ORCHARD GRASS
DATSTR	* DATURA STRAMONIUM	5 UPL	Ad A-FORB	JIMSON WEED
DAUCAR	* DAUCUS CAROTA	5 UPL	Ad B-FORB	QUEEN ANNE'S LACE
DENLAC	5 Dentaria laciniata	3 FACU	Nt P-FORB	TOOTHWORT
DESPIB	* DESCURAINIA PINNATA BRACHYCARPA	5 UPL	Ad A-FORB	TANSY MUSTARD
DESCAA	4 Desmodium canadense	1 FAC-	Nt P-FORB	SHOWY TICK TREFOIL
DESGLU	5 Desmodium glutinosum	5 UPL	Nt P-FORB	POINTED TICK TREFOIL
DICCUC	6 Dicentra cucullaria	5 UPL	Nt P-FORB	DUTCHMAN'S BREECHES
DIGSAS	* DIGITARIA SANGUINALIS	3 FACU	Ad A-GRASS	HAIRY CRAB GRASS
DIOVIL	7 Dioscorea villosa	1 FAC-	Nt H-VINE	WILD YAM
DODMEA	6 Dodecatheon meadia	3 FACU	Nt P-FORB	SHOOTING STAR
DRYSPI	8 Dryopteris spinulosa	-2 FACW-	CRYPTOGAM	SPINULOSE SHIELD FERN
DRYTHP	6 Dryopteris thelypteris pubescens	-5 [OBL]	CRYPTOGAM	MARSH SHIELD FERN
ECHCRU	0 Echinocloa crusgalli	-3 FACW	Nt A-GRASS	BARNYARD GRASS
ECLPRO	* ECLIPTA PROSTRATA	-3 FACW	Ad A-FORB	YERBA DE TAJO
ELEACI	2 Eleocharis acicularis	-5 OBL	Nt P-SEDGE	NEEDLE SPIKE RUSH
ELEERY	2 Eleocharis erythropoda	-5 OBL	Nt P-SEDGE	RED-ROOTED SPIKE RUSH
ELEOBT	3 Eleocharis obtusa	-5 OBL	Nt A-SEDGE	BLUNT SPIKE RUSH
ELLNYC	2 Ellisia nyctelea	-1 FAC+	Nt A-FORB	AUNT LUCY
ELVIL	5 Elymus villosus	3 FACU	Nt P-GRASS	SILKY WILD RYE
ELYVIR	4 Elymus virginicus	-2 FACW-	Nt P-GRASS	VIRGINIA WILD RYE
EPICOL	3 Epilobium coloratum	-5 OBL	Nt P-FORB	CINNAMON WILLOW HERB
EQUARV	0 Equisetum arvense	0 FAC	CRYPTOGAM	HORSETAIL
ERAHYP	5 Eragrostis hypnoides	-5 OBL	Nt A-GRASS	CREEPING LOVE GRASS
ERAPEC	0 Eragrostis pectinacea	0 FAC	Nt A-GRASS	SMALL LOVE GRASS
ERIAN	0 Erigeron annuus	1 FAC-	Nt B-FORB	ANNUAL FLEABANE
ERICAN	0 Erigeron canadensis	1 FAC-	Nt A-FORB	HORSEWEED
ERYALB	5 Erythronium albidum	5 UPL	Nt P-FORB	WHITE TROUT LILY
EUOALA	* EUONYMUS ALATUS	5 UPL	Ad SHRUB	BURNING BUSH
EUOATR	8 Euonymus atropurpureus	1 FAC-	Nt SHRUB	WAHOO
EUPALT	0 Eupatorium altissimum	3 [FACU]	Nt P-FORB	TALL BONESET
EUPPER	4 Eupatorium perfoliatum	-4 FACW+	Nt P-FORB	COMMON BONESET
EUPPUR	7 Eupatorium purpureum	5 UPL	Nt P-FORB	PURPLE JOE PYE WEED
EUPRUG	4 Eupatorium rugosum	5 UPL	Nt P-FORB	WHITE SNAKEROOT
FESELA	* FESTUCA ELATIOR	2 FACU+	Ad P-GRASS	TALL FESCUE
FESOBT	5 Festuca obtusa	2 FACU+	Nt P-GRASS	NODDING FESCUE
FRAVIR	1 Fragaria virginiana	1 FAC-	Nt P-FORB	WILD STRAWBERRY
FRAAMA	5 Fraxinus americana	3 FACU	Nt TREE	WHITE ASH
FRANIG	10 Fraxinus nigra	-4 FACW+	Nt TREE	BLACK ASH
FRAPEP	5 Fraxinus pennsylvanica	-3 FACW	Nt TREE	RED ASH
FRAPES	1 Fraxinus pennsylvanica subintegerrima	0 FAC	Nt TREE	GREEN ASH
GALAPA	1 Galium aparine	3 FACU	Nt A-FORB	ANNUAL BEDSTRAW
GALCON	5 Galium concinnum	5 [UPL]	Nt P-FORB	SHINING BEDSTRAW
GALOBT	5 Galium obtusum	-4 FACW+	Nt P-FORB	WILD MADDER
GALTRF	5 Galium triflorum	2 FACU+	Nt P-FORB	SWEET-SCENTED BEDSTRAW
GERMAC	4 Geranium maculatum	5 [UPL]	Nt P-FORB	WILD GERANIUM
GEUCAN	1 Geum canadense	0 FAC	Nt P-FORB	WOOD AVENS
GEULAT	2 Geum laciniatum trichocarpum	-3 FACW	Nt P-FORB	ROUGH AVENS
GLEHED	* GLECHOMA HEDERACEA	3 FACU	Ad P-FORB	CREEPING CHARLIE
GLETRI	2 Gleditsia triacanthos	0 FAC	Nt TREE	HONEY LOCUST
GLYSTR	4 Glyceria striata	-3 [FACW]	Nt P-GRASS	FOWL MANNA GRASS
GRANEG	7 Gratiola neglecta	-5 OBL	Nt A-FORB	CLAMMY HEDGE HYSSOP
HACVIR	0 Hackelia virginiana	1 FAC-	Nt B-FORB	STICKSEED
HELAUT	5 Helenium autumnale	-4 FACW+	Nt P-FORB	SNEEZEWEED
HELSTR	5 Helianthus strumosus	5 UPL	Nt P-FORB	PALE-LEAVED SUNFLOWER
HELTUB	3 Helianthus tuberosus	0 FAC	Nt P-FORB	JERUSALEM ARTICHOKE
HEPACU	6 Hepatica acutiloba	5 UPL	Nt P-FORB	SHARP-LOBED HEPATICA
HERMAX	5 Heracleum maximum	5 UPL	Nt P-FORB	COW PARSNIP
HESMAT	* HESPERIS MATRONALIS	5 UPL	Ad P-FORB	DAME'S ROCKET
HETDUB	8 Heteranthera dubia	-5 OBL	Nt P-FORB	WATER STAR GRASS
HORJUB	* HORDEUM JUBATUM	-1 FAC+	Ad P-GRASS	SQUIRREL-TAIL GRASS
HUMJAP	* HUMULUS JAPONICUS	3 FACU	Ad H-VINE	JAPANESE HOP

Clear Creek Corridor - Appendix I Species List (cont.):

HYDVIR	5	Hydrophyllum virginianum	0 [FAC]	Nt	P-FORB	VIRGINIA WATERLEAF
HYPPER	*	HYPERICUM PERFORATUM	5 UPL	Ad	P-FORB	COMMON ST. JOHN'S WORT
HYPPUN	4	Hypericum punctatum	3 [FACU]	Nt	P-FORB	SPOTTED ST. JOHN'S WORT
HYPPYR	10	Hypericum pyramidatum	-1 FAC+	Nt	P-FORB	GREAT ST. JOHN'S WORT
HYSEAT	5	Hystrix patula	5 UPL	Nt	P-GRASS	BOTTLEBRUSH GRASS
IMPCAP	3	Impatiens capensis	-3 FACW	Nt	A-FORB	ORANGE JEWELWEED
IMPPAL	6	Impatiens pallida	-1 [FAC+]	Nt	A-FORB	YELLOW JEWELWEED
IRIVIS	5	Iris virginica shrevei	-5 OBL	Nt	P-FORB	BLUE FLAG
ISOBIT	8	Isopyrum biternatum	5 UPL	Nt	P-FORB	FALSE RUE ANEMONE
JUGCIN	8	Juglans cinerea	2 FACU+	Nt	TREE	BUTTERNUT
JUGNIG	5	Juglans nigra	3 FACU	Nt	TREE	BLACK WALNUT
JUNDUD	4	Juncus dudleyi	0 [FAC]	Nt	P-FORB	DUDLEY'S RUSH
JUNTEN	0	Juncus tenuis	2 [FACU+]	Nt	P-FORB	PATH RUSH
JUNVIC	2	Juniperus virginiana crebra	3 FACU	Nt	TREE	RED CEDAR
LACCAN	2	Lactuca canadensis	2 FACU+	Nt	B-FORB	WILD LETTUCE
LACSER	*	LACTUCA SERRIOLA	0 FAC	Ad	B-FORB	PRICKLY LETTUCE
LAPCAN	3	Laportea canadensis	-3 FACW	Nt	P-FORB	WOOD NETTLE
LEORY	4	Leersia oryzoides	-5 OBL	Nt	P-GRASS	RICE CUT GRASS
LEEVIR	7	Leersia virginica	-3 FACW	Nt	P-GRASS	WHITE GRASS
LEMMIO	5	Lemna minor	-5 OBL	Nt	A-FORB	SMALL DUCKWEED
LEOCAR	*	LEONURUS CARDIACA	5 UPL	Ad	P-FORB	MOTHERWORT
LEPCAM	*	LEPIDIDIUM CAMPESTRE	5 UPL	Ad	B-FORB	FIELD CRESS
LEPDEN	*	LEPIDIDIUM DENSIFLORUM	0 FAC	Ad	A-FORB	SMALL PEPPERCRESS
LILMIC	6	Lilium michiganense	-1 FAC+	Nt	P-FORB	TURK'S CAP LILY
LINDUB	5	Lindernia dubia	-5 OBL	Nt	A-FORB	FALSE PIMPERNEL
LIPLAN	6	Lippia lanceolata	-5 OBL	Nt	P-FORB	FOG FRUIT
LOBINF	4	Lobelia inflata	4 FACU-	Nt	A-FORB	INDIAN TOBACCO
LOBSIP	6	Lobelia siphilitica	-4 FACW+	Nt	P-FORB	GREAT BLUE LOBELIA
LOBSPS	6	Lobelia spicata	0 FAC	Nt	P-FORB	PALE SPIKED LOBELIA
LONPRO	7	Lonicera prolifera	5 UPL	Nt	W-VINE	YELLOW HONEYSUCKLE
LONBEL	*	LONICERA X BELLA	4 FACU-	Ad	SHRUB	SHOWY FLY HONEYSUCKLE
LONMUE	*	LONICERA X MUENDENIENSIS	5 UPL	Ad	SHRUB	COMMON FLY HONEYSUCKLE
LOTCOR	*	LOTUS CORNICULATUS	1 FAC-	Ad	P-FORB	BIRD'S FOOT TREFOIL
LUDALT	6	Ludwigia alternifolia	-5 OBL	Nt	P-FORB	SEEDBOX
LUDPAA	5	Ludwigia palustris americana	-5 OBL	Nt	P-FORB	MARSH PURSLANE
LYCAME	5	Lycopus americanus	-5 OBL	Nt	P-FORB	COMMON WATER HOREHOUND
LYCVIR	9	Lycopus virginicus	-5 OBL	Nt	P-FORB	BUGLE WEED
LYSCIL	4	Lysimachia ciliata	-3 FACW	Nt	P-FORB	FRINGED LOOSESTRIPE
LYSHYB	10	Lysimachia hybrida	-5 OBL	Nt	P-FORB	RIVER LOOSESTRIPE
LYSNUM	*	LYSIMACHIA NUMMULARIA	-4 FACW+	Ad	P-FORB	MONEYWORT
LYSTHY	9	Lysimachia thyrsoiflora	-5 OBL	Nt	P-FORB	TUFTED LOOSESTRIPE
LYTALA	7	Lythrum alatum	-5 OBL	Nt	P-FORB	WINGED LOOSESTRIPE
MACPOM	*	MACLURA POMIFERA	3 FACU	Ad	TREE	OSAGE ORANGE
MALIOE	3	Malus ioensis	5 UPL	Nt	TREE	IOWA CRAB
MATMAT	*	MATRICARIA MATRICARIOIDES	3 FACU	Ad	A-FORB	PINEAPPLE WEED
MEDLUP	*	MEDICAGO LUPULINA	1 FAC-	Ad	A-FORB	BLACK MEDICK
MELLOF	*	MELILOTUS OFFICINALIS	3 FACU	Ad	B-FORB	YELLOW SWEET CLOVER
MENCAN	6	Menispermum canadense	-1 FAC+	Nt	W-VINE	MOONSEED
MERVIR	5	Mertensia virginica	-3 FACW	Nt	P-FORB	VIRGINIA BLUEBELLS
MIMRIN	6	Mimulus ringens	-5 OBL	Nt	P-FORB	MONKEY FLOWER
MOLVER	*	MOLLUGO VERTICILLATA	0 FAC	Ad	A-FORB	CARPET WEED
MONFIS	4	Monarda fistulosa	3 FACU	Nt	P-FORB	WILD BERGAMOT
MORALB	*	MORUS ALBA	0 FAC	Ad	TREE	WHITE MULBERRY
MUHSCH	0	Muhlenbergia schreberi	3 [FACU]	Nt	P-GRASS	NIMBLEWILL
MYOAQU	*	MYOSOTON AQUATICUM	-1 FAC+	Ad	P-FORB	WATER CHICKWEED
NEPCAT	*	NEPETA CATARIA	1 FAC-	Ad	P-FORB	CATNIP
OENBIE	0	Oenothera biennis	3 FACU	Nt	B-FORB	COMMON EVENING PRIMROSE
ONosen	8	Onoclea sensibilis	-3 FACW	CRYPTOGAM		SENSITIVE FERN
OSMCLO	3	Osmorhiza claytonii	4 FACU-	Nt	P-FORB	HAIRY SWEET CICELY
OSMLON	3	Osmorhiza longistylis	4 FACU-	Nt	P-FORB	SMOOTH SWEET CICELY
OSMCLI	9	Osmunda claytoniana	-1 FAC+	CRYPTOGAM		INTERRUPTED FERN
OSTVIR	5	Ostrya virginiana	4 FACU-	Nt	TREE	HOP HORNBEEAM
OXAEUR	0	Oxalis europaea	3 FACU	Nt	P-FORB	TALL WOOD SORREL
OXASTR	0	Oxalis stricta	5 UPL	Nt	P-FORB	COMMON WOOD SORREL
PANLAT	5	Panicum latifolium	3 FACU	Nt	P-GRASS	BROAD-LEAVED PANIC GRASS
PANVIR	5	Panicum virgatum	-1 FAC+	Nt	P-GRASS	SWITCH GRASS
PARPEN	3	Parietaria pensylvanica	3 FACU	Nt	A-FORB	PELLITORY
PARINS	1	Parthenocissus inserta	3 FACU	Nt	W-VINE	THICKET CREEPER
PARQUI	2	Parthenocissus quinquefolia	1 FAC-	Nt	W-VINE	VIRGINIA CREEPER
PASSAT	*	PASTINACA SATIVA	5 UPL	Ad	B-FORB	WILD PARSNIP
PENSED	5	Penthorum sedoides	-5 OBL	Nt	P-FORB	DITCH STONECROP
PHAARU	*	PHALARIS ARUNDINACEA	-4 FACW+	Ad	P-GRASS	REED CANARY GRASS
PHLPRA	*	PHLEUM PRATENSE	3 FACU	Ad	P-GRASS	TIMOTHY
PHLDIV	5	Phlox divaricata	3 FACU	Nt	P-FORB	WOODLAND PHLOX
PHRLEP	4	Phryma leptostachya	5 UPL	Nt	P-FORB	LOPSEED
PHYHET	3	Physalis heterophylla	5 UPL	Nt	P-FORB	CLAMMY GROUND CHERRY
PHYAME	1	Phytolacca americana	1 FAC-	Nt	P-FORB	POKEWEED
PILPUM	5	Pilea pumila	-3 FACW	Nt	A-FORB	CLEARWEED

Clear Creek Corridor - Appendix I Species List (cont.):

PLALAN	* PLANTAGO LANCEOLATA	0 FAC	Ad P-FORB	ENGLISH PLANTAIN
PLARUG	0 Plantago rugelii	0 FAC	Nt A-FORB	RED-STALKED PLANTAIN
PLAOCC	9 Platanus occidentalis	-3 FACW	Nt TREE	SYCAMORE
POACOM	* POA COMPRESSA	2 FACU+	Ad P-GRASS	CANADA BLUE GRASS
POAPAS	9 Poa palustris	-4 FACW+	Nt P-GRASS	MARSH BLUE GRASS
POAPRA	* POA PRATENSIS	1 FAC-	Ad P-GRASS	KENTUCKY BLUE GRASS
PODPPEL	4 Podophyllum peltatum	3 FACU	Nt P-FORB	MAY APPLE
POLREP	5 Polemonium reptans	0 FAC	Nt P-FORB	JACOB'S LADDER
POLCAL	3 Polygonatum canaliculatum	3 FACU	Nt P-FORB	SMOOTH SOLOMON'S SEAL
POLAVI	* POLYGONUM AVICULARE	1 FAC-	Ad A-FORB	COMMON KNOTWEED
POLCOC	4 Polygonum coccineum	-5 OBL	Nt P-FORB	WATER HEARTSEASE
POLHYR	2 Polygonum hydropiper	-3 FACW	Nt A-FORB	WATER PEPPER
POLHYS	7 Polygonum hydropiperoides	-5 OBL	Nt P-FORB	MILD WATER PEPPER
POLPEN	0 Polygonum pensylvanicum	-4 FACW+	Nt A-FORB	PINKWEED
POLPUN	6 Polygonum punctatum	-5 OBL	Nt A-FORB	SMARTWEED
POLSAG	8 Polygonum sagittatum	-5 OBL	Nt A-FORB	ARROW-LEAVED TEAR-THUMB
POLGVI	2 Polygonum virginianum	0 FAC	Nt P-FORB	WOODLAND KNOTWEED
POPDEL	2 Populus deltoides	-1 FAC+	Nt TREE	EASTERN COTTONWOOD
POPGRA	6 Populus grandidentata	3 FACU	Nt TREE	LARGE-TOOTHED ASPEN
POTNOR	0 Potentilla norvegica	0 FAC	Nt A-FORB	NORWAY CINQUEFOIL
POTSIS	4 Potentilla simplex	4 FACU-	Nt P-FORB	COMMON CINQUEFOIL
PREALB	5 Prenanthes alba	3 FACU	Nt P-FORB	LION'S FOOT
PRUVLA	0 Prunella vulgaris lanceolata	3 [FACU]	Nt P-FORB	SELF HEAL
PRUAME	5 Prunus americana	5 UPL	Nt TREE	WILD PLUM
PRUSER	1 Prunus serotina	3 FACU	Nt TREE	WILD BLACK CHERRY
PRUVIR	3 Prunus virginiana	3 [FACU]	Nt SHRUB	CHOKE CHERRY
PYCPIL	5 Pycnanthemum pilosum	5 UPL	Nt P-FORB	HAIRY MOUNTAIN MINT
QUEALB	5 Quercus alba	0 FAC	Nt TREE	WHITE OAK
QUEMAC	5 Quercus macrocarpa	1 FAC-	Nt TREE	BUR OAK
QUEPAU	8 Quercus palustris	-3 FACW	Nt TREE	PIN OAK
QUERUB	7 Quercus rubra	3 FACU	Nt TREE	RED OAK
QUEVEL	6 Quercus velutina	5 UPL	Nt TREE	BLACK OAK
RANABO	0 Ranunculus abortivus	-2 FACW-	Nt A-FORB	SMALL-FLOWERED BUTTERCUP
RANFAS	6 Ranunculus fascicularis	3 FACU	Nt P-FORB	EARLY BUTTERCUP
RANSCE	6 Ranunculus sceleratus	-5 OBL	Nt A-FORB	CURSED BUTTERCUP
RANSEP	5 Ranunculus septentrionalis	-4 FACW+	Nt P-FORB	SWAMP BUTTERCUP
RHACAT	* RHAMNUS CATHARTICA	3 FACU	Ad SHRUB	COMMON BUCKTHORN
RHUGLA	1 Rhus glabra	5 UPL	Nt SHRUB	SMOOTH SUMAC
RHURAD	2 Rhus radicans	-1 FAC+	Nt W-VINE	POISON IVY
RIBMIS	5 Ribes missouriense	5 UPL	Nt SHRUB	WILD GOOSEBERRY
ROBPSE	* ROBINIA PSEUDOACACIA	4 FACU-	Ad TREE	BLACK LOCUST
RORPAF	4 Rorippa palustris fernaldiana	-5 OBL	Nt A-FORB	MARSH CRESS
RORSSES	4 Rorippa sessiliflora	-5 OBL	Nt A-FORB	SESSILE-FLOWERED CRESS
ROSMUL	* ROSA MULTIFLORA	3 FACU	Ad SHRUB	MULTIFLORA ROSE
RUBALL	3 Rubus allegheniensis	2 FACU+	Nt SHRUB	COMMON BLACKBERRY
RUBOCC	2 Rubus occidentalis	5 UPL	Nt SHRUB	BLACK RASPBERRY
RUBPEN	3 Rubus pensilvanicus	3 FACU	Nt SHRUB	YANKEE BLACKBERRY
RUDHIR	1 Rudbeckia hirta	3 FACU	Nt P-FORB	BLACK-EYED SUSAN
RUDLAC	5 Rudbeckia laciniata	-4 FACW+	Nt P-FORB	WILD GOLDEN GLOW
RUMALT	2 Rumex altissimus	-2 FACW-	Nt P-FORB	PALE DOCK
RUMCRI	* RUMEX CRISPUS	-1 FAC+	Ad P-FORB	CURLY DOCK
RUMOBT	* RUMEX OBTUSIFOLIUS	-3 FACW	Ad P-FORB	BITTER DOCK
RUMVER	6 Rumex verticillatus	-5 OBL	Nt P-FORB	SWAMP DOCK
SAGBRE	7 Sagittaria brevirostra	-5 OBL	Nt P-FORB	SHORT-BEAKED ARROWHEAD
SALAMY	5 Salix amygdaloides	-3 FACW	Nt TREE	PEACH-LEAVED WILLOW
SALERI	5 Salix eriocephala	-3 FACW	Nt SHRUB	HEART-LEAVED WILLOW
SALFRA	* SALIX FRAGILIS	-1 FAC+	Ad TREE	CRACK WILLOW
SALINT	1 Salix interior	-5 OBL	Nt SHRUB	SANDBAR WILLOW
SALNIG	4 Salix nigra	-5 OBL	Nt TREE	BLACK WILLOW
SALRUB	* SALIX X RUBENS	-4 FACW+	Ad TREE	HYBRID CRACK WILLOW
SAMCAN	1 Sambucus canadensis	-2 FACW-	Nt SHRUB	ELDERBERRY
SANCAO	6 Sanguinaria canadensis	4 FACU-	Nt P-FORB	BLOODROOT
SANCAA	7 Sanicula canadensis	2 FACU+	Nt B-FORB	CANADIAN BLACK SNAKEROOT
SANGRE	2 Sanicula gregaria	-1 FAC+	Nt P-FORB	CLUSTERED BLACK SNAKEROOT
SANMAR	6 Sanicula marilandica	3 [FACU]	Nt P-FORB	BLACK SNAKEROOT
SCIATR	4 Scirpus atrovirens	-5 OBL	Nt P-SEDGE	DARK GREEN RUSH
SCICYP	6 Scirpus cyperinus	-5 OBL	Nt P-SEDGE	WOOL GRASS
SCIFLU	4 Scirpus fluviatilis	-5 OBL	Nt P-SEDGE	RIVER BULRUSH
SCIPEN	4 Scirpus pendulus	-5 OBL	Nt P-SEDGE	RED BULRUSH
SCIVAC	5 Scirpus validus creber	-5 OBL	Nt P-SEDGE	GREAT BULRUSH
SCRMAR	4 Scrophularia marilandica	4 FACU-	Nt P-FORB	LATE FIGWORT
SCUEPI	5 Scutellaria epilobiifolia	-5 OBL	Nt P-FORB	MARSH SKULLCAP
SCULAT	5 Scutellaria lateriflora	-5 OBL	Nt P-FORB	MAD-DOG SKULLCAP
SENAUR	7 Senecio aureus	-3 FACW	Nt P-FORB	GOLDEN RAGWORT
SENPAU	6 Senecio pauperculus	-1 FAC+	Nt P-FORB	BALSAM RAGWORT
SETFAB	* SETARIA FABERI	2 FACU+	Ad A-GRASS	GIANT FOXTAIL
SETGLA	* SETARIA GLAUCA	0 FAC	Ad A-GRASS	YELLOW FOXTAIL
SILANT	1 Silene antirrhina	5 UPL	Nt A-FORB	SLEEPY CATCHFLY

Clear Creek Corridor - Appendix I Species List (cont.):

SILNIV	10	Silene nivea	-3	FACW	Nt	P-FORB	SNOWY CAMPION
SILPER	5	Silphium perfoliatum	-2	FACW-	Nt	P-FORB	CUP PLANT
SISLOE	*	SISYMBRIUM LOESELII	5	UPL	Ad	A-FORB	TALL HEDGE MUSTARD
SMIRAC	3	Smilacina racemosa	3	FACU	Nt	P-FORB	FEATHERY FALSE SOLOMON'S SEAL
SMISTE	5	Smilacina stellata	1	FAC-	Nt	P-FORB	STARRY FALSE SOLOMON'S SEAL
SMIECI	5	Smilax ecirrhata	5	UPL	Nt	P-FORB	UPRIGHT CARRION FLOWER
SMILAS	5	Smilax lasioneura	5	[UPL]	Nt	H-VINE	COMMON CARRION FLOWER
SMITAH	5	Smilax tamnoides hispida	5	UPL	Nt	W-VINE	BRISTLY CAT BRIER
SOLAME	0	Solanum americanum	4	FACU-	Nt	A-FORB	BLACK NIGHTSHADE
SOLCAR	*	SOLANUM CAROLINENSE	4	FACU-	Ad	P-FORB	HORSE NETTLE
SOLDUL	*	SOLANUM DULCAMARA	0	FAC	Ad	W-VINE	BITTERSWEET NIGHTSHADE
SOLALT	1	Solidago altissima	3	FACU	Nt	P-FORB	TALL GOLDENROD
SOLCAN	1	Solidago canadensis	3	FACU	Nt	P-FORB	CANADA GOLDENROD
SOLFLE	7	Solidago flexicaulis	3	FACU	Nt	P-FORB	BROAD-LEAVED GOLDENROD
SOLGIG	4	Solidago gigantea	-3	FACW	Nt	P-FORB	LATE GOLDENROD
SOLGYM	5	Solidago gymnospermoides	0	FAC	Nt	P-FORB	VISCID GRASS-LEAVED GOLDENROD
SOLULM	5	Solidago ulmifolia	5	UPL	Nt	P-FORB	ELM-LEAVED GOLDENROD
SPACHL	10	Sparganium chlorocarpum	-5	OBL	Nt	P-FORB	DWARF BUR REED
SPAPEC	4	Spartina pectinata	-4	FACW+	Nt	P-GRASS	PRAIRIE CORD GRASS
SPEPER	4	Specularia perfoliata	0	FAC	Nt	A-FORB	VENUS'S LOOKING GLASS
SPHINT	4	Sphenopholis intermedia	0	FAC	Nt	P-GRASS	SLENDER WEDGE GRASS
STAPAH	5	Stachys palustris homotricha	-5	OBL	Nt	P-FORB	WOUNDWORT
STATET	8	Stachys tenuifolia	-3	[FACW]	Nt	P-FORB	SMOOTH HEDGE NETTLE
STATEH	5	Stachys tenuifolia hispida	-4	FACW+	Nt	P-FORB	MARSH HEDGE NETTLE
STATRI	7	Staphylea trifolia	0	FAC	Nt	SHRUB	BLADDERNUT
STEMED	*	STELLARIA MEDIA	3	FACU	Ad	A-FORB	COMMON CHICKWEED
TAROFF	*	TARAXACUM OFFICINALE	3	FACU	Ad	P-FORB	COMMON DANDELION
TEUCAN	3	Teucrium canadense	-3	FACW	Nt	P-FORB	GERMANDER
THADAH	5	Thalictrum dasycarpum hypoglaucum	-2	FACW-	Nt	P-FORB	SMOOTH MEADOW RUE
THABAR	8	Thaspium barbinode	5	UPL	Nt	P-FORB	HAIRY MEADOW PARSNIP
THLARV	*	THLASPI ARVENSE	5	UPL	Ad	A-FORB	PENNY CRESS
TILAME	5	Tilia americana	3	FACU	Nt	TREE	AMERICAN LINDEN
TRAOHI	2	Tradescantia ohiensis	2	FACU+	Nt	P-FORB	COMMON SPIDERWORT
TRIHYB	*	TRIFOLIUM HYBRIDUM	1	FAC-	Ad	P-FORB	ALSIKE CLOVER
TRIPRA	*	TRIFOLIUM PRATENSE	5	UPL	Ad	P-FORB	RED CLOVER
TRIREF	*	TRIFOLIUM REPENS	2	FACU+	Ad	P-FORB	WHITE CLOVER
TRINIV	10	Trillium nivale	5	UPL	Nt	P-FORB	SNOW TRILLIUM
TRIAUA	5	Triosteum aurantiacum	5	UPL	Nt	P-FORB	EARLY HORSE GENTIAN
TRIPER	5	Triosteum perfoliatum	5	UPL	Nt	P-FORB	LATE HORSE GENTIAN
TYPANG	1	Typha angustifolia	-5	OBL	Nt	P-FORB	NARROW-LEAVED CATTAIL
TYPLAT	1	Typha latifolia	-5	OBL	Nt	P-FORB	BROAD-LEAVED CATTAIL
TYPGLA	1	Typha X glauca	-5	OBL	Nt	P-FORB	HYBRID CATTAIL
ULMAME	3	Ulmus americana	-2	FACW-	Nt	TREE	AMERICAN ELM
ULMPUM	*	ULMUS PUMILA	5	UPL	Ad	TREE	SIBERIAN ELM
ULMRUB	4	Ulmus rubra	0	FAC	Nt	TREE	SLIPPERY ELM
URTPRO	2	Urtica procera	-1	FAC+	Nt	P-FORB	TALL NETTLE
UVUGRA	7	Uvularia grandiflora	5	UPL	Nt	P-FORB	BELLWORT
VERPHL	*	VERBASCUM PHLOMOIDES	5	UPL	Ad	B-FORB	CLASPING MULLEIN
VERTHA	*	VERBASCUM THAPSUS	5	UPL	Ad	B-FORB	COMMON MULLEIN
VERHAS	4	Verbena hastata	-4	FACW+	Nt	P-FORB	BLUE VERVAIN
VERSTR	4	Verbena stricta	5	UPL	Nt	P-FORB	HOARY VERVAIN
VERURU	5	Verbena urticifolia	5	UPL	Nt	P-FORB	HAIRY WHITE VERVAIN
VERFAS	5	Vernonia fasciculata	-3	FACW	Nt	P-FORB	COMMON IRONWEED
VERARV	*	VERONICA ARVENSIS	3	FACU	Ad	A-FORB	CORN SPEEDWELL
VERPEE	0	Veronica peregrina	5	UPL	Nt	A-FORB	PURSLANE SPEEDWELL
VERSER	*	VERONICA SERPYLLIFOLIA	0	[FAC]	Ad	P-FORB	THYME-LEAVED SPEEDWELL
VIBLEN	5	Viburnum lentago	-1	FAC+	Nt	SHRUB	NANNYBERRY
VIBOPU	*	VIBURNUM OPULUS	3	[FACU]	Ad	SHRUB	EUROPEAN Highbush CRANBERRY
VICVIL	*	VICIA VILLOSA	5	UPL	Ad	A-FORB	WINTER VETCH
VIOMIS	4	Viola missouriensis	0	[FAC]	Nt	P-FORB	MISSOURI VIOLET
VIOPUB	5	Viola pubescens	4	FACU-	Nt	P-FORB	YELLOW VIOLET
VIOSOR	3	Viola sororia	1	FAC-	Nt	P-FORB	COMMON BLUE VIOLET
VIOSTR	6	Viola striata	-3	FACW	Nt	P-FORB	CREAM VIOLET
VITRIP	2	Vitis riparia	-2	FACW-	Nt	W-VINE	RIVERBANK GRAPE
XANSTR	*	XANTHIUM STRUMARIUM	0	FAC	Ad	A-FORB	COCKLEBUR
XANAME	3	Xanthoxylum americanum	5	UPL	Nt	SHRUB	PRICKLY ASH

Appendix II

Special Status Species

Clear Creek Corridor - Coralville, Iowa

Native plants recorded from within the project are that are classified as either infrequent or rare to Johnson County (Thorne 1955), and/or infrequent or rare to this region of the state, i.e., east-central Iowa (Eilers and Roosa 1994). In general, these species are not common due to their conservative habitat requirements. The plants are listed alphabetically by species. Nomenclature follows Swink and Wilhelm (1994). An "x" in a column indicates that the species is "infrequent" or "rare" according to the literature, and a "-" indicates it is not. Three plants listed as "UNK" are not listed in Thorne (1955) as species known from Johnson County.

Two sedges in this list (*Carex aggregata* and *C. tenera*) are classified as "special concern species" for the State of Iowa (Iowa Administrative Code 1994).

Species	Common Name	Literature	
		Thorne	Eilers & Roosa
<i>Acorus calamus</i>	SWEET FLAG	x	-
<i>Actinomeris alternifolia</i>	WINGSTEM	x	-
<i>Agalinis tenuifolia</i>	SLENDER FALSE FOXGLOVE	x	-
<i>Allium canadense</i>	WILD ONION	x	-
<i>Alopecurus carolinianus</i>	ANNUAL FOXTAIL	x	x
<i>Apocynum sibiricum</i>	PRAIRIE INDIAN HEMP	x	-
<i>Aralia racemosa</i>	SPIKENARD	x	-
<i>Arenaria lateriflora</i>	WOOD SANDWORT	x	-
<i>Asclepias amplexicaulis</i>	SAND MILKWEED	x	-
<i>Asclepias exaltata</i>	POKE MILKWEED	x	x
<i>Aster lateriflorus</i>	SIDE-FLOWERING ASTER	x	-
<i>Aster ontarionis</i>	ONTARIO ASTER	x	-
<i>Boehmeria cylindrica</i>	FALSE NETTLE	x	-
<i>Boltonia latisquama</i> var. <i>recognita</i>	FALSE ASTER	x	x
<i>Cardamine bulbosa</i>	BULBOUS CRESS	x	x
<i>Cardamine pensylvanica</i>	PENNSYLVANIA BITTER CRESS	x	-
<i>Carex aggregata</i>	SMOOTH CLUSTERED SEDGE	-	x
<i>Carex annectans</i> var. <i>xanthocarpa</i>	SMALL YELLOW FOX SEDGE	x	x

Clear Creek Corridor - Appendix II (cont.):

Species	Common Name	Literature	
		Thorne	Eilers & Roosa
<i>Carex emoryi</i>	RIVERBANK SEDGE	-	x
<i>Carex frankii</i>	BRISTLY CATTAIL SEDGE	UNK	x
<i>Carex jamesii</i>	GRASS SEDGE	x	x
<i>Carex lacustris</i>	COMMON LAKE SEDGE	x	-
<i>Carex lupulina</i>	COMMON HOP SEDGE	x	-
<i>Carex normalis</i>	SPREADING OVAL SEDGE	x	x
<i>Carex scoparia</i>	LANCE-FRUITED OVAL SEDGE	x	-
<i>Carex shortiana</i>	SHORT'S SEDGE	x	x
<i>Carex sprengelii</i>	LONG-BEAKED SEDGE	x	-
<i>Carex trichocarpa</i>	HAIRY-FRUITED LAKE SEDGE	x	x
<i>Carex vescicaria</i> var. <i>monile</i>	TUFTED LAKE SEDGE	x	x
<i>Caulophyllum thalictroides</i>	BLUE COHOSH	x	x
<i>Cirsium discolor</i>	FIELD THISTLE	x	-
<i>Clematis pitcheri</i>	LEATHER FLOWER	x	x
<i>Cornus obliqua</i>	BLUE-FRUITED DOGWOOD	x	-
<i>Desmodium canadense</i>	SHOWY TICK TREFOIL	x	-
<i>Dodecatheon meadia</i>	SHOOTING STAR	x	x
<i>Dryopteris spinulosa</i>	SPINULOSE SHIELD FERN	x	x
<i>Dryopteris thelypteris</i> var. <i>pubescens</i>	MARSH SHIELD FERN	x	x
<i>Eleocharis erythropoda</i>	RED-ROOTED SPIKE RUSH	x	x
<i>Fraxinus nigra</i>	BLACK ASH	x	-
<i>Galium obtusum</i>	WILD MADDER	x	-
<i>Geum laciniatum</i> var. <i>trichocarpum</i>	ROUGH AVENS	x	-
<i>Heracleum maximum</i>	COW PARSNIP	x	x
<i>Hypericum pyramidatum</i>	GREAT ST. JOHN'S WORT	x	x
<i>Juncus dudleyi</i>	DUDLEY'S RUSH	x	-
<i>Lilium michiganense</i>	MICHIGAN LILY	x	-
<i>Lobelia spicata</i>	PALE SPIKED LOBELIA	x	-
<i>Ludwigia alternifolia</i>	SEEDBOX	x	x

Clear Creek Corridor - Appendix II (cont.):

Species	Common Name	Literature	
		Thorne	Eilers & Roosa
<i>Ludwigia palustris</i> var. <i>americana</i>	MARSH PURSLANE	x	x
<i>Lycopus virginicus</i>	BUGLE WEED	x	x
<i>Lysimachia hybrida</i>	RIVER LOOSESTRIFE	x	-
<i>Lysimachia thyrsiflora</i>	TUFTED LOOSESTRIFE	x	x
<i>Polygonum hydropiperoides</i>	MILD WATER PEPPER	UNK	x
<i>Polygonum sagittatum</i>	ARROW-LEAVED TEAR THUMB	x	-
<i>Sagittaria brevirostra</i>	SHORT-BEAKED ARROW HEAD	x	x
<i>Sanicula marilandica</i>	BLACK SNAKEROOT	x	-
<i>Scirpus fluviatilis</i>	RIVER BULRUSH	x	-
<i>Scutellaria epilobiifolia</i>	MARSH SKULLCAP	x	x
<i>Silene nivea</i>	SNOWY CAMPION	x	x
<i>Sparganium chlorocarpum</i>	DWARF BUR REED	UNK	x
<i>Sphenopholus intermedia</i>	SLENDER WEDGE GRASS	x	-
<i>Stachys palustris</i> var. <i>homotricha</i>	WOUNDWORT	x	-
<i>Thaspium barbinode</i>	HAIRY MEADOW PARSNIP	x	-
<i>Trillium nivale</i>	SNOW TRILLIUM	x	x
<i>Triosteum aurantiacum</i>	EARLY HORSE GENTIAN	x	x
<i>Viburnum lentago</i>	NANNYBERRY	x	-

Exhibits

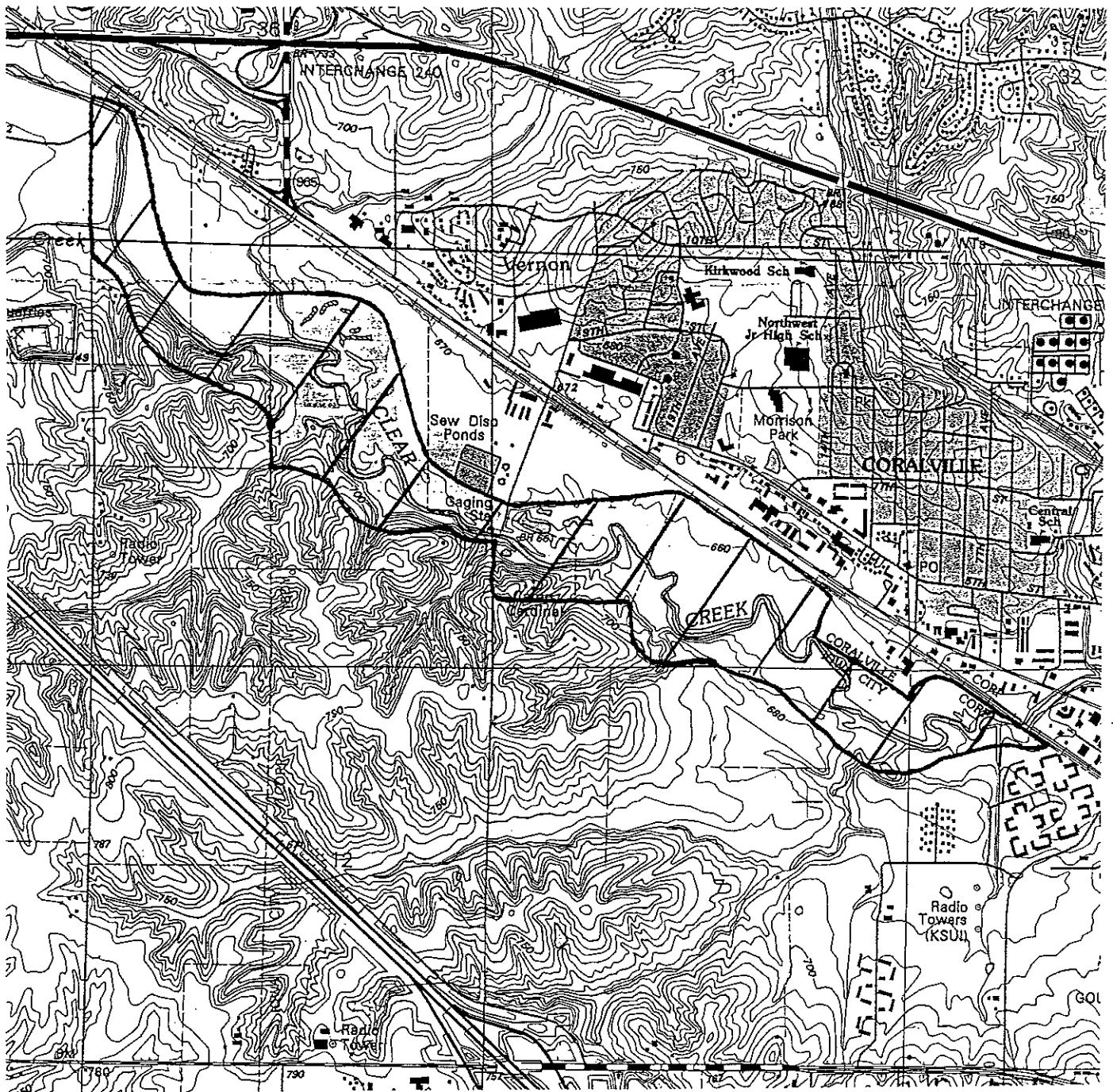


Exhibit B USGS Topographic Map

Iowa City West Quadrangle, 7.5 Minute Series (scale: 1" = 2000')

Clear Creek Corridor - Coralville, Iowa

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Above: Fill piles and weedy vegetation near Camp Cardinal Road at south end of JLS Property.

Below: Recently-created artificial drainageway north of creek in eastern portion of project area.

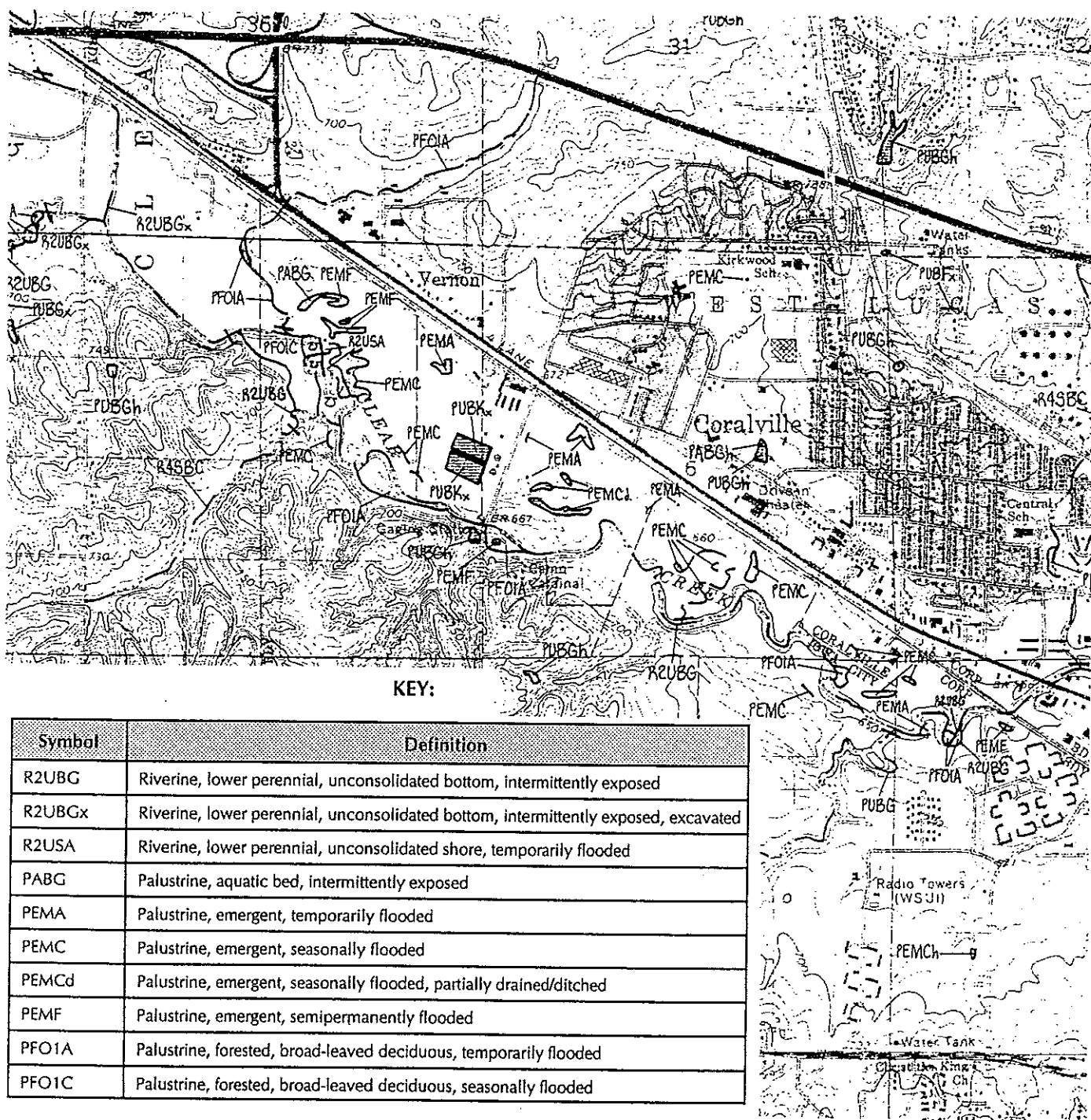


Exhibit C NWI Map

Wetland habitat overlay on topographic map (scale: 1" = 2000')

Clear Creek Corridor - Coralville, Iowa

Conservation Design Forum
January 1998

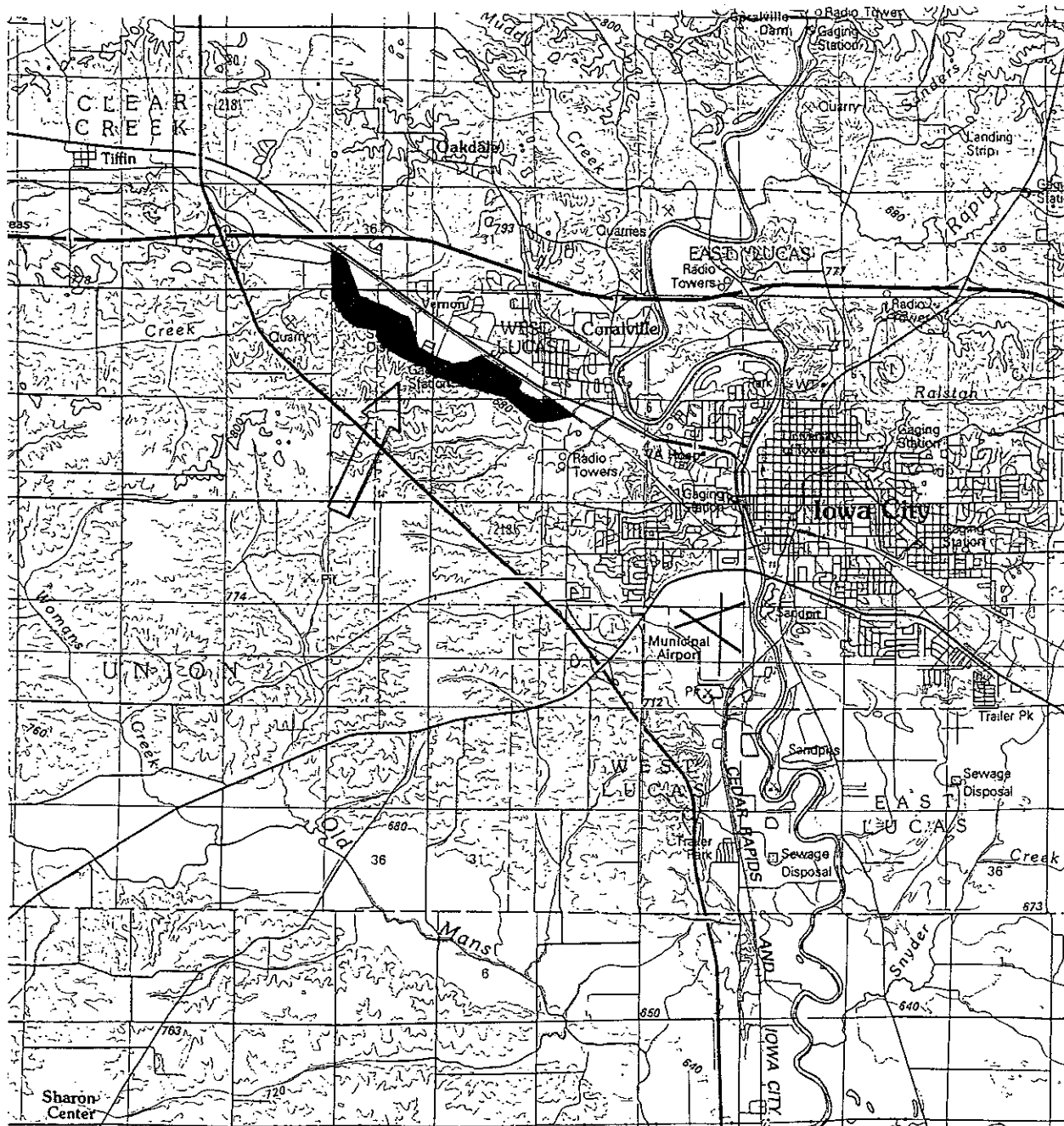


Exhibit A Project Location Map

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Clear Creek Corridor - Coralville, Iowa

Conservation Design Forum
January 1998

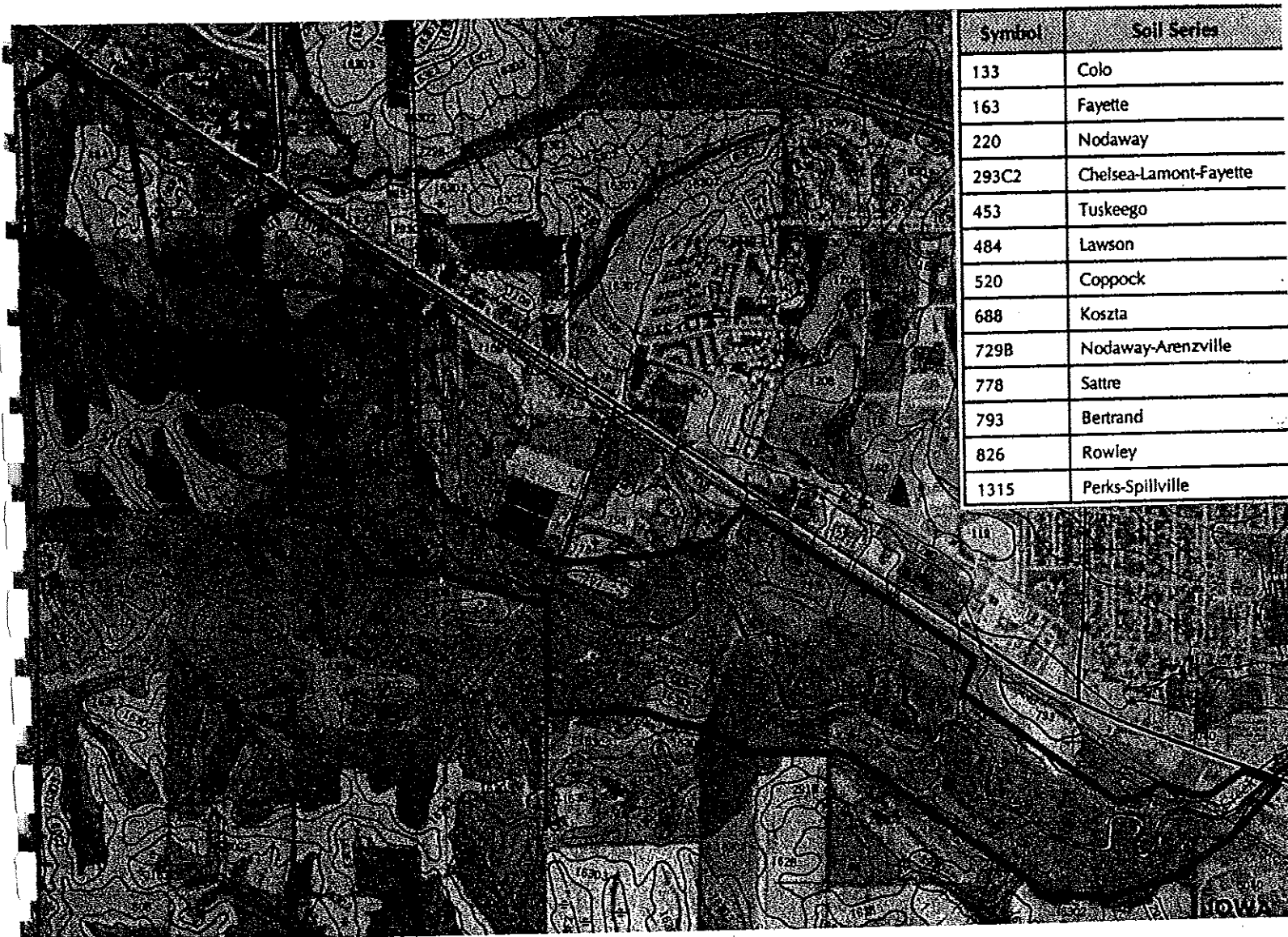


Exhibit D Johnson County Soil Survey Map (not to scale)

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Clear Creek Corridor - Coralville, Iowa

*Conservation Design Forum
January 1998*

Existing Site Conditions Key

-  Wooded Bluffs & Ravines
-  Bottomland Woods & Terraces
-  Ox-bows & Vegetated Wetlands
-  Clear Creek
-  Old-field Habitats & Pasture
-  Cultivated Land
-  Artificial Waterways

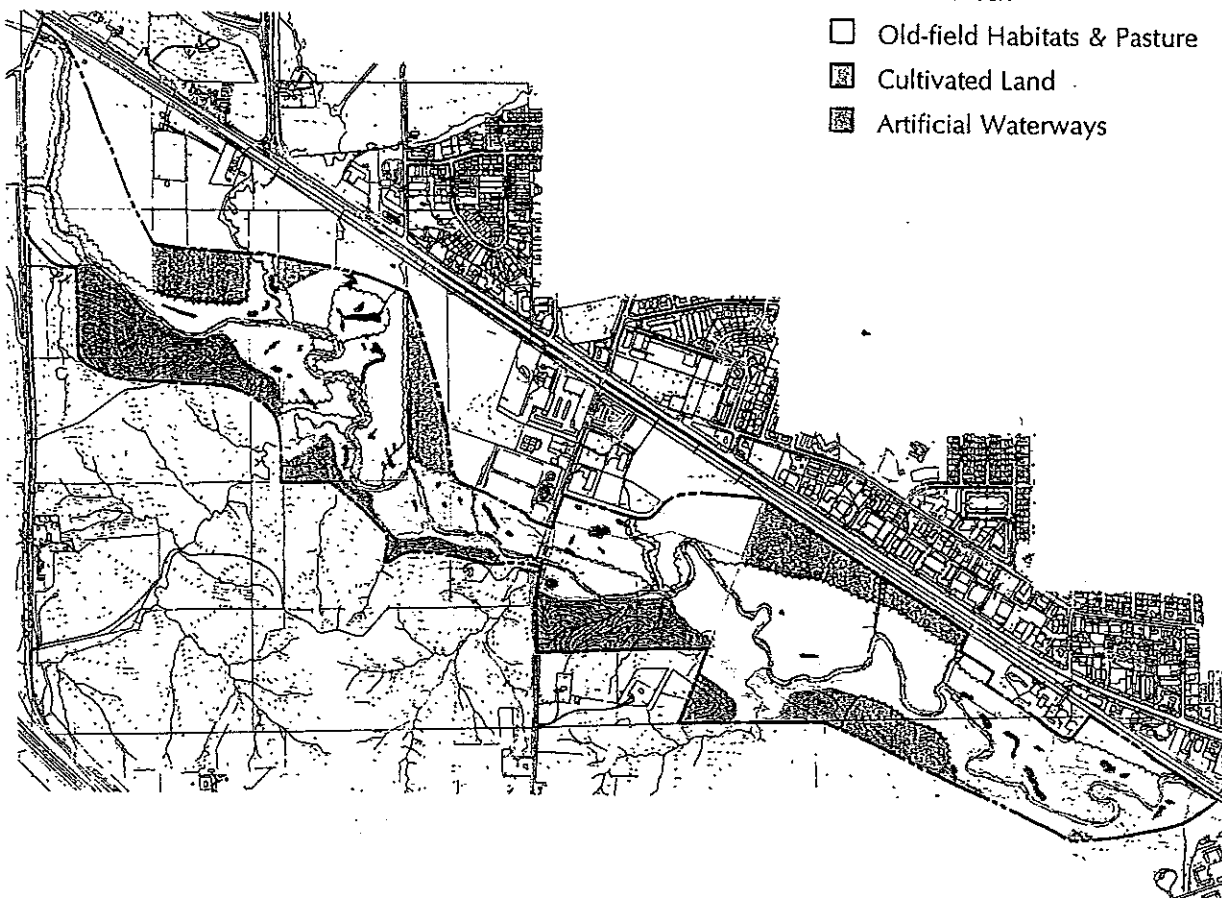


Exhibit E Existing Site Conditions Map

(not to scale)

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Entire project area

Clear Creek Corridor - Coralville, Iowa

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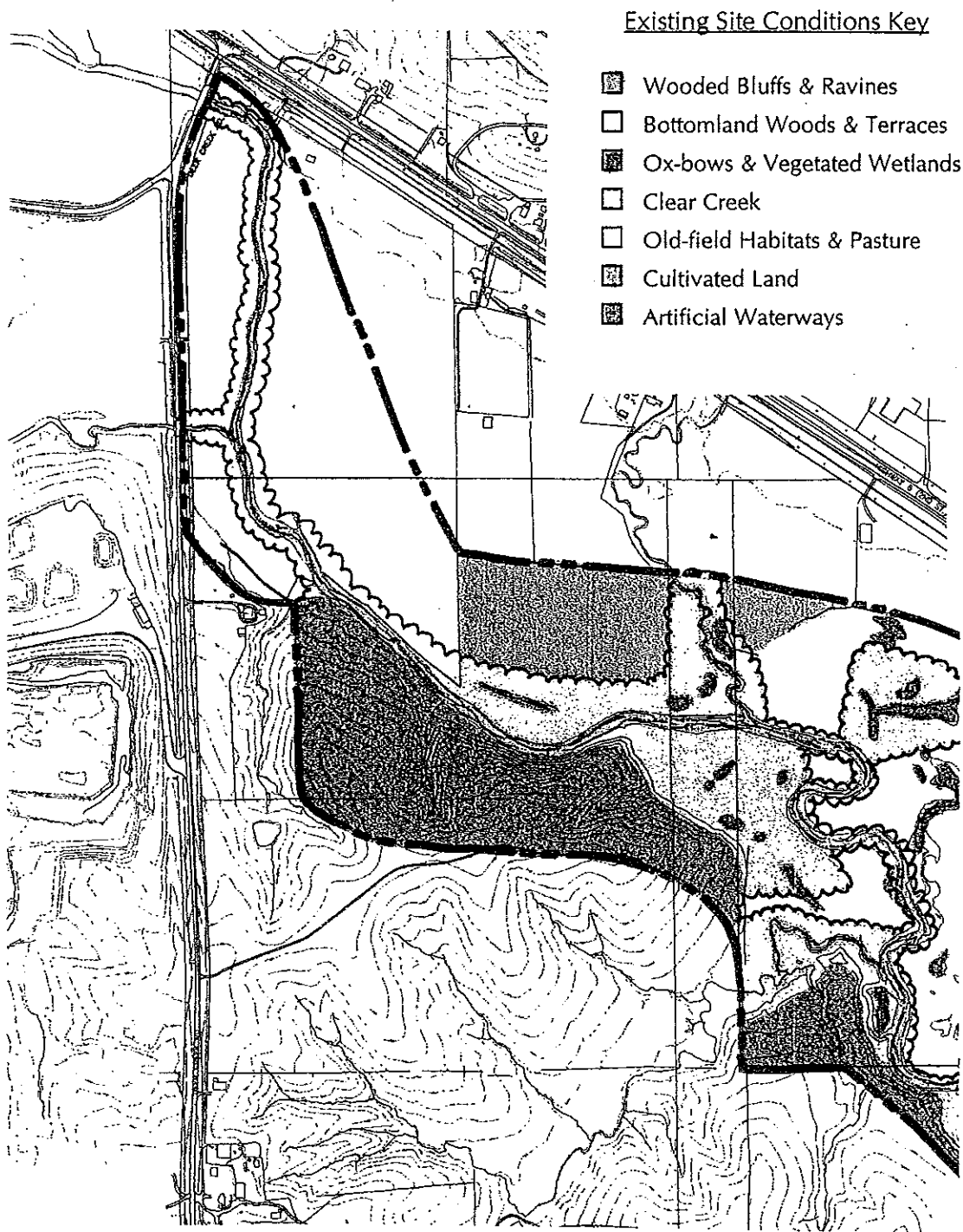


Exhibit F Existing Site Conditions Map

(not to scale)

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Western 1/3 of project area

Clear Creek Corridor - Coralville, Iowa



Exhibit G Existing Site Conditions Map (not to scale)

Central 1/3 of project area

Clear Creek Corridor - Coralville, Iowa

Existing Site Conditions Key

-  Wooded Bluffs & Ravines
-  Bottomland Woods & Terraces
-  Ox-bows & Vegetated Wetlands
-  Clear Creek
-  Old-field Habitats & Pasture
-  Cultivated Land
-  Artificial Waterways

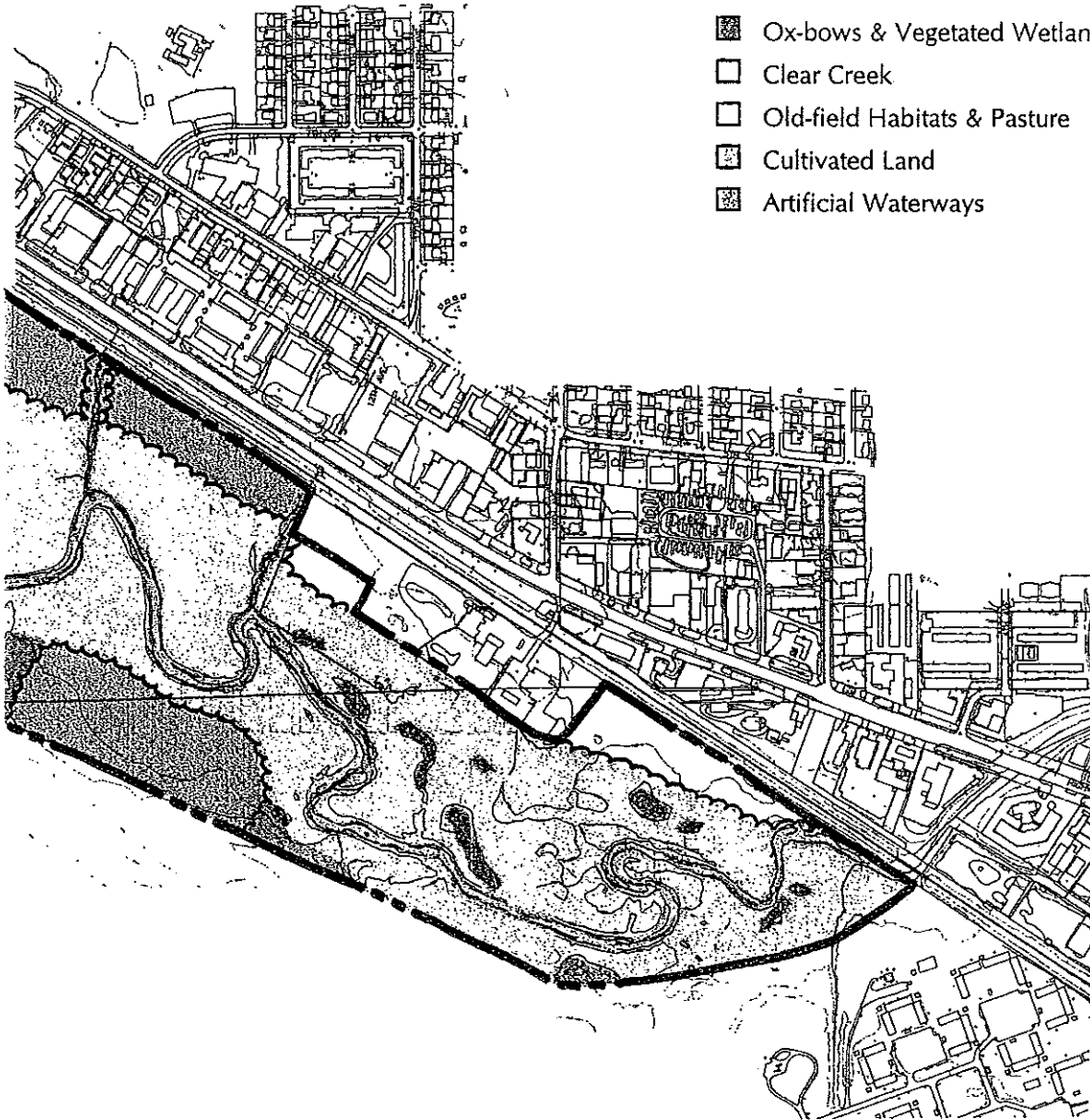


Exhibit H Existing Site Conditions Map (not to scale)

Eastern 1/3 of project area

Clear Creek Corridor - Coralville, Iowa

Photographs



Above: Upland woods at former Camp Cardinal.

Below: Top of wooded bluff near agricultural land west of Camp Cardinal Road showing erosion gully.



Above: Bottomland woods along Clear Creek showing sandy alluvium.

Below: Erosion gully within bottomland woods.

Clear Creek Corridor - Coralville, Iowa



Above: Cattail marsh north of creek, east of Camp Cardinal Road.

Below: Clear Creek, showing typical streambank erosion.

Clear Creek Corridor - Coralville, Iowa



Above: Ox-bow wetland on Greer Property.

Below: Remnant sedge meadow wetland north of creek, west of Camp Cardinal Road.

Clear Creek Corridor - Coralville, Iowa



Above: Old-field habitat at west end of site.

Below: Rolling upland in cultivation south of creek at east end of site.

Clear Creek Corridor - Coralville, Iowa

Conservation Design Forum
January 1998

